

## Claims

- [c1] 1. A projecting system for projecting an image onto a screen comprising:
- a projector comprising:
- a light source;
- a beam splitter installed on a side of the light source, for splitting a beam generated by the light source into a visible beam and an invisible beam;
- a first image-forming device for modulating the invisible beam to form a first image;
- a second image-forming device for modulating the visible beam to form a second image having at least one cursor; and
- a prism for projecting the first image and the second image onto the screen; and
- an image-capturing device for capturing a part of the first image, the image-capturing device having
- an output unit for outputting the first image captured by the image-capturing device, wherein the output unit outputs a first part of the first image at a first time, outputs a second part of the first image at a second time;
- and
- a data processor for receiving data from the output unit

and changing the position of the cursor according to the first part and the second part of the first image.

- [c2] 2. The projecting system of claim 1 wherein the first image is a square matrix.
- [c3] 3. The projecting system of claim 1 wherein the data processor is connected to the projector through a transmission line.
- [c4] 4. The projecting system of claim 1 wherein the data processor is connected to the projector wirelessly.
- [c5] 5. The projecting system of claim 1 wherein the data processor calculates a moving distance for the cursor according to a difference between the first part and the second part of the first image.
- [c6] 6. The projecting system of claim 5 wherein the projecting system further comprises a computer, and the data processor is installed inside the computer for calculating the moving distance of the cursor.
- [c7] 7. The projecting system of claim 6 wherein the output unit of the image-capturing device transmits the first part and the second part of the first image to the data processor through a transmission line.
- [c8] 8. The projecting system of claim 6 wherein the output

unit of the image-capturing device transmits the first part and the second part of the first image to the data processor wirelessly.

- [c9] 9. The projecting system of claim 1 wherein the image-capturing device further comprises a processing unit for calculating a difference between the first part and the second part of the first image so as to calculate a moving distance for the cursor.
- [c10] 10. The projecting system of claim 9 wherein the projecting system is cooperated with a computer, and the image-capturing device further comprises a data transmitter for transmitting the moving distance of the cursor.
- [c11] 11. The projecting system of claim 1 wherein the first image-forming device and the second image-forming device are liquid crystal displays (LCD).
- [c12] 12. The projecting system of claim 1 wherein the first image-forming device and the second image-forming device are digital micromirror devices (DMD).
- [c13] 13. The projecting system of claim 1 wherein the photo sensing device is a charge coupled device (CCD).